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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,313	12/02/2003	Ivan V. Mendenhall	AAI-14304	3115

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EXAMINER

GELLNER, JEFFREY L

ART UNIT PAPER NUMBER

3643

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/726,313

Applicant(s)

MENDENHALL ET AL.

Examiner

Jeffrey L. Gellner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 5-8, 16, 17, 22 and 25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 9-15, 18-21, 23, 24 and 26-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2 December 2003
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Acknowledgement is made of Applicants' IDS received 2 December 2003.

Election/Restrictions

Applicant's election of hydroxypropyl cellulose, aminoguanidine bicarbonate, alloy of Al and Mg, potassium nitrate, and surface of a gas generate material in the reply filed on 14 October 2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Further, Applicant's election of surface of gas generant tablet and a gas generant material for use in an automotive safety restraint in the reply filed on 7 February 2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Claims 5-8 16, 17, 22, and 25 are withdrawn because they are drawn to non-elected species.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 13 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the use of aminoguanidine bicarbonate as a thickening agent that would decompose

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at between 130 and 170 degrees C, does not reasonably provide enablement for all combinations of fuel, oxidizer, polymeric binder, and blowing agent. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with this claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 11-15, 18, and 26-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida (US 5,883,330).

As to claim 1, 11, and 12, Yoshida discloses a an ignition composition (abstract) effective to form an igniter substance have a surface area (abstract), the ignition composition including a fuel (RDX or HMX of col. 4 lines 10-21) and oxidizer ("potassium nitrate" of col. 4 lines 37-43) further comprising a polymeric binder (col. 5 lines 41-48) and a blowing agent ("aminoguanidine bicarbonate" of col. 4 lines 1-4) effective, upon decomposition (Yoskida's composition capable of decomposition), to increase the surface area of the igniter substance; wherein the igniter composition, upon being heated to a predetermined temperature, forms an igniter substance which is porous and capable of adhering to an associated inflator apparatus surface (Yoskida's composition of either RDX or HMX and aminoguanidine bicarbonate capable of being made porous and adhering; see col. 4 lines 30-31). Not disclosed is the particular composition with

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either RDX or HMX and aminoguanidine bicarbonate. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the composition of Yoshida by using either RDX or HMX and aminoguanidine bicarbonate depending upon use (see col. 4 lines 30-31).

As to claim 13, Yoshida further discloses the composition being porous upon heating to between 130 and 170 C (inherent).

As to claims 14 and 15, Yoshida further discloses the surface a surface of gas generant tablet (col. 7 lines 19-25 in that can be made into a tablet).

As to claim 18 and 26-29, Yoshida discloses a an ignition composition (abstract) effective to form an igniter substance have a surface area (abstract), the ignition composition including a fuel (RDX or HMX of col. 4 lines 10-21) and oxidizer ("potassium nitrate" of col. 4 lines 37-43) further comprising a polymeric binder (col. 5 lines 41-48) and a blowing agent ("aminoguanidine bicarbonate" of col. 4 lines 1-4) effective, upon decomposition (Yoskida's composition capable of decomposition), to increase the surface area of the igniter substance; wherein the igniter composition, upon being heated to a predetermined temperature, forms an igniter substance which is porous and capable of adhering to an associated inflator apparatus surface (Yoskida's composition of either RDX or HMX and aminoguanidine bicarbonate capable of being made porous and adhering; see col. 4 lines 30-31). Not disclosed is the particular composition with either RDX or HMX and aminoguanidine bicarbonate; and, the particular percentages of the constituents making up the composition. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the composition of Yoshida by

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using either RDX or HMX and aminoguanidine bicarbonate depending upon use (see col. 4 lines 30-31) and further to have a composition with the percentages of the constituents as disclosed in claim 18 depending upon use of the composition.

As to claim 23, Yoshida further discloses the oxidizer being potassium nitrate (col. 4 lines 37-42).

As to claims 27-29, Yoshida further discloses bentonite as a desensitizing agent (col. 6 lines 25-29) at up to about 10 composition weight percent (col. 6 lines 30-35).

Claims 2-4 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida (US 5,883,330) in view of Nielson et al. (US 6,224,099).

As to claims 2-4, the limitations of claim 1 are disclosed as described above. Not disclosed is the fuel being a powdered metal of aluminum and magnesium alloy. Nielson et al., however, discloses a igniter composition with powdered aluminum and magnesium alloy as a fuel (col. 3 lines 50-56). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the composition of Yoshida by adding a fuel of a powdered metal of aluminum and magnesium alloy as disclosed by Nielson et al. so as to ensure effective gas generation.

As to claims 19-21, the limitations of claim 18 are disclosed as described above. Not disclosed is the fuel being a powdered metal of aluminum and magnesium alloy. Nielson et al., however, discloses a igniter composition with powdered aluminum and magnesium alloy as a fuel (col. 3 lines 50-56). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the composition of Yoshida by adding a fuel of a powdered

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metal of aluminum and magnesium alloy as disclosed by Nielson et al. so as to ensure effective gas generation.

Claims 9, 10, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida (US 5,883,330) in view of Trapp et al. (US 5,007,973).

As to claims 9 and 10, the limitations of claim 1 are disclosed as described above. Not disclosed is the binder being hydroxypropyl cellulose. Trapp et al., however, discloses a composition with hydroxypropyl cellulose (col. 14 lines 57-68). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the composition of Yoshida by using hydroxypropyl cellulose as the binder so as to have a thickener and a binder.

As to claim 24, the limitations of claim 18 are disclosed as described above. Not disclosed is the binder being hydroxypropyl cellulose. Trapp et al., however, discloses a composition with hydroxypropyl cellulose (col. 14 lines 57-68). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the composition of Yoshida by using hydroxypropyl cellulose as the binder so as to have a thickener and a binder.

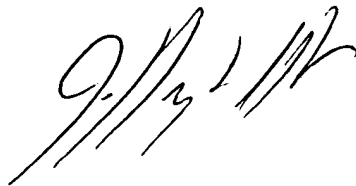
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey L. Gellner whose telephone number is 571.272.6887. The examiner can normally be reached on Monday-Friday, 8:30-4:00, alternate Fridays off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Poon can be reached on 571.272.6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'J. L. Gellner', is positioned to the left of the printed name.

Jeffrey L. Gellner
Primary Examiner
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